

WHAT IS CLAIMED IS:

1. A bearing for rotatably supporting a cylindrical shaft within a frame internal cylindrical support surface in which the shaft has an external diameter of A and is subject to thermal expansion and the frame internal cylindrical support surface has an internal diameter of B, comprising:

a tubular member having opposed ends spaced apart by a distance D and having an axial passageway there through, the outer surface of the member having an external rib adjacent each said end, each rib having an external diameter of B, the tubular member being slideably positionable in the frame internal cylindrical support surface, the said axial passageway being defined by a central bearing surface of internal diameter of A and rotatably receiving the shaft, the bearing surface having an axial length less than D and less than the spacing between said ribs, the bearing being deformable within elastic limits permitting the internal diameter of said bearing surface to expand to accept thermal expansion of the shaft.

2. A bearing according to Claim 1 wherein said member has a longitudinal slit therein, the slit extending from said outer surface to said axial passageway.

3. A bearing according to Claim 1 wherein said bearing surface is of axial length of about $\frac{1}{3}$ D.

4. A bearing according to Claim 2 wherein said member has an external center rib positioned between said ribs adjacent said member ends, the center rib having an outer circumferential surface having external diameter less than B.

- 1 5. A bearing according to Claim 2 including at least one shallow depth supplemental slot in
2 each said external rib.
- 1 6. A bearing according to Claim 5 wherein the depth of each supplemental slit is substantially
2 equal to the height of said external ribs.
- 1 7. A bearing according to Claim 5 including a plurality of shallow depth supplemental slits in
2 each said external rib, the supplemental slits being spaced in radial planes of a tubular axis of
3 the member.
- 1 8. A bearing according to Claim 1 wherein said axial passageway is further defined by lateral
2 internal circumferential surface extending from opposed ends of said center bearing surface
3 to said member opposed ends, the internal diameter of each lateral internal circumferential
4 surface being greater than A.
- 1 9. A bearing according to Claim 4 wherein said center rib has a circumferential groove in said
2 outer circumferential surface thereof.
- 1 10. A bearing according to Claim 1 including at least one full depth slot therein of length less
2 than D and extending from said outer circumferential surface to said axial passageway.
- 1 11. A bearing according to Claim 10 wherein the length of each said full depth slot is about the
2 spacing between said external ribs.
- 1 12. A bearing according to Claim 1 including at least one radial lubrication hole extending from
2 said external surface to said bearing surface.

1 13. A bearing for supporting a rotatable shaft subject to thermal expansion comprising:

2 an elongated tubular member supported by spaced apart radially extending
3 circumferential ribs and having a shaft receiving axial passageway therethrough having
4 therein a cylindrical bearing surface positioned between said ribs and of relatively short axial
5 length compared to the spacing between said ribs, the bearing surface being radially
6 outwardly expandable within the tubular member elastic limits.

1 14. For supporting a rotatable cylindrical shaft that is subject to thermal expansion, a bearing
2 comprising:

3 an elongated tubular member supported at spaced apart external locations and having
4 a shaft receiving axial passageway therethrough, a relatively short length reduced internal
5 diameter cylindrical bearing surface within said passageway and positioned intermediate to
6 and spaced inwardly from each of said support locations, the bearing surface being radially
7 flexible within elastic limits of the tubular member in response to changes in the diameter of
8 the rotatable shaft.

1 15. A bearing according to Claim 14 wherein said tubular member has a longitudinal slit therein
2 in an axial plane.

1 16. A bearing according to Claim 14 wherein said bearing surface is of axial length of about $\frac{1}{3}$
2 the distance between the spaced apart external locations.

1 17. A bearing according to Claim 14 including an external circumferential rib at each of said
2 spaced apart locations.

1 18. A bearing according to Claim 17 wherein said tubular member has an intermediate external
2 rib spaced between said ribs adjacent said spaced apart locations, the intermediate rib having

3 an external diameter less the external diameter of each of said first mentioned external
4 circumferential ribs.

1 19. A bearing according to Claim 17 including at least one shallow depth slit in each said
2 external rib.

1 20. A bearing according to Claim 19 wherein the depth of each said slit is substantially equal to
2 the height of said external circumferential ribs.

1 21. A bearing according to Claim 17 including a plurality of shallow depth supplemental slots in
2 each said external rib, the supplemental slots being spaced in radial planes of a tubular axis
3 of the member.

1 22. A bearing according to Claim 18 wherein said intermediate rib has a circumferential groove
2 in an outer circumferential surface thereof.

1 23. A bearing according to Claim 14 including at least one radial lubrication hole extending from
2 exterior of the tubular member to said bearing surface.